

REMARKS

Applicants respectfully request reconsideration of the above-identified application in view of the amendment above and the remarks below.

No claims have been canceled or amended in this paper. New claim 10 has been added in this paper. Therefore, claims 6-7 and 10 are pending and are under active consideration.

Claim 6 stands rejected under 35 U.S.C. 112, second paragraph, “as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” In support of the rejection, the Patent Office states the following:

Claim 6 is an apparatus claim, however the applicant fails to particularly point out the elements of the device that perform the tasks that are listed in the claim. Processing signals, a plurality of force-time curves and a program for controlling the data processor does not patentably distinguish the invention over the prior arts.

Applicants respectfully traverse the subject rejection. Applicants respectfully submit that a person of ordinary skill in the art, after having read the present specification, would be reasonably apprised of the metes and bounds of claim 6.

Accordingly, for at least the above reasons, the subject rejection should be withdrawn.

Claim 6 stands rejected under 35 U.S.C. 103(a) “as being unpatentable over Hayka et al (US 5,688,118) in view of Vardimon et al. (US 5,752,832).” In support of the rejection, the Patent Office states the following:

Regarding claim 6, Hayka discloses a simulation system for dentistry wherein forces can be exerted on a tooth secured in a model of a jaw using a tool in order to examine or work on the tooth (See Col. 6, 33-39). Hayka further discloses a single sensor measuring device fixed underneath the model of the jaw (See Col. 11, 24-37) constructed as six-component force-moment sensor (See Col. 9, 16-56), Wherein the components of force (the resistance of the region that is being drilled) is transferred to the processing unit (e.g. display

unit 68). The data processor further comprises a memory (See Fig. 4 and Col. 10, 9-59). Hayka does not explicitly disclose that the forces are converted into electrical measuring signals. However, Hayka discloses that both mechanical and electrical sensors can be used to simulate the region of a tooth being drilled. Therefore, Hayka inherently includes electrical measuring signals. Hayka does not specifically disclose a plurality of reference-force-time curves of different dental treatment steps. However Vardimon discloses a method for measuring tooth tightening, wherein the force applied to the teeth is measured as a function of time in order to determine the tightness between the teeth for orthodontic purposes. Vardimon further discloses measuring and processing the exerted force via a processing unit (See Abstract and Col. 3, 43-54 and figures 3 and 4). Therefore it would have been obvious to one of ordinary skill in the art to modify Hayka's invention to include a force-time measurement in order to accommodate user with an accurate performance feedback in dentistry training.

Applicants respectfully traverse the subject rejection.

Applicants' comments regarding Hayka et al. from previous responses are incorporated herein by reference.

Vardimon et al. discloses a method and an apparatus for measuring tooth tightness, wherein the force applied to the teeth is measured as a function of time in order to determine the tightness between the teeth for orthodontic purposes.

The measuring of force and time simultaneously is carried out in many technical fields and, therefore, is a well-known procedure. Any person having ordinary skill in the art will be able to construct such a measuring device and carry out measurements using this device. Thus, the invention of Vardimon et al. is only a very special solution of many possibilities to carry out force-time measurements.

The aim of the present invention is completely different from that of Vardimon et al. The present invention is aimed at teaching students how to examine or treat teeth by using instruments,

such as drills, for example. This is also the aim of Hayka et al. However, as already explained, the device developed by Hayka et al. is completely different from that developed by the present inventors. As already mentioned, Hayka et al. always uses a dental hand-piece 52 provided with a force sensor. In addition, a platform 51 can be used.

The difference between the invention of Hayka et al. and the present invention becomes clearer when the treatment procedure as described below is carried out. Also, the present invention involves an examination procedure without using instruments. In order to ascertain if a tooth is loose or fixed, a pressure can be applied to it by using a finger.

It is completely impossible to carry out this kind of examination by Hayka et al. because the technical science employed in Hayka et al. is different from that of the present invention.

Furthermore, the combination of force measurement and time measurement, as disclosed in the present application, yields a special effect. This effect can be characterized as a teaching and training effect. In other words, by this combination only, a very simple and effective device for learning dental treatment procedures with or without using instruments can be provided. It must also be mentioned that, according to the present invention, conventional instruments, such as those daily used by a dentist can be applied. This is not possible with the invention of Hayka et al.

Accordingly, for at least the above reasons, the subject rejection should be withdrawn.

Claim 7 stands rejected under 35 U.S.C. 103(a) “as being unpatentable over Hayka et al. (US 5,688,118) in view of Vardimon et al. (US 5,752,832) and further in view of Azerad et al. (US 2004/0091845).” In support of the rejection, the Patent Office states the following:

Regarding claim 7, Hayka/Hennion do not specifically disclose generating acoustic signals corresponding to a specific force/time. Azerad discloses acoustic signal patterns stored in correlation with the measured force/time course are retrieved and

displayed by an acoustic display unit, wherein the multitude of sound samples are stored in the data memory in which case by means of a program subject to the actual force/time course of the simulated tooth treatment a sound sample belonging to it can be displayed (See P. 4, [0073]). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of Azerad's invention into the system and method of Hayka/Hennion in order to create a more realistic environment for training the users.

Applicants respectfully traverse the subject rejection. Claim 7 depends from claim 6. Claim 6 is patentable over Hayka et al. in view of Vardimon et al. for at least the reasons given above. Azerad et al. fails to cure all of the deficiencies of Hayka et al. and Vardimon et al. with respect to claim 6. (Applicants incorporate herein by reference their comments regarding Azerad et al. from previous responses.) Therefore, based at least on its dependency from claim 6, claim 7 is patentable over the instant combination of Hayka et al., Vardimon et al., and Azerad et al.

Accordingly, for at least the above reasons, the subject rejection should be withdrawn.

Claim 10 has been added in this paper. No new matter is added by this claim, which finds support, for example, in claim 6. Claim 10 is patentable for at least the same reasons as claim 6.

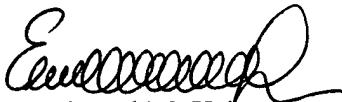
In conclusion, it is respectfully submitted that the present application is in condition for allowance. Prompt and favorable action is earnestly solicited.

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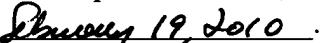
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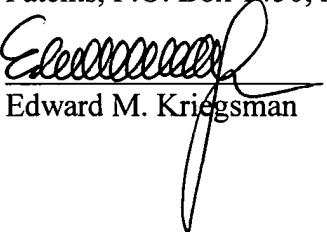
Respectfully submitted,

Kriegsman & Kriegsman

By: 
Edward M. Kriegsman
Reg. No. 33,529
30 Turnpike Road, Suite 9
Southborough, MA 01772
(508) 481-3500

Dated: 
February 19, 2010

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Edward M. Kriegsman